April 28, 2005

U.S. HOUSEOF REPRESENTATIVES
COMMITTEE ON TRANSPORTATION and INFRASTRUCTURE
SUBCOMMITTEE ON RAILROADS

HEARING ON NEW TECHNOLOGIES

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Good Morning. Mr. Chairman and members of the Committee. It is an honor for me to testify today on new technologies for rail safety, a subject of great concern to this country and to all employees of the nation's railroads.

My name is Dan Pickett, and I am the International President of the Brotherhood of Railroad Signalmen. The Brotherhood of Railroad Signalmen ("BRS"), a labor organization with headquarters at 917 Shenandoah Shores Road, Front Royal, Virginia, 22630-6418, submits the following comments concerning new technologies in the rail industry.

BRS, founded in 1901, represents approximately 9,000 members working for railroads across the United States and Canada. Signalmen install, maintain and repair the signal systems that railroads utilize to direct train movements. Signalmen also install and maintain the grade crossing signal systems used at highway-railroad intersections, which play a vital role in ensuring the safety of highway travelers. Throughout our entire existence, the BRS has dedicated itself to making the railroad workplace safer, not just for rail workers, but also for the public at large.

Before any discussion of new technologies for rail safety can even begin, it should be noted that the rail industry is moving more freight with less employees than at any time in the history of railroading. This is a critical point that must be acknowledged. Through mergers and railroad managements' never ending quest to eliminate workers, railroad staffing levels are at an all time low and continue to drop. Those railroad employees that are left are working longer hours for many days at a stretch. A 12 to 16 hour day is not unusual for a railroad worker and in many cases it is the norm. Railroads are abusing the very asset that is their most important resource that secures their property day in and day out.

The railroads need to start treating front-line employees as true partners in the effort to protect our rail system – these workers are the "eyes and ears" so to speak of the industry. They greet passengers, sell tickets, operate trains, maintain track and signal systems, dispatch trains and repair rail cars. In today's volatile climate, rail employees are always wary of a possible terrorist attack and in the event that an attack does occur, our members will be on the scene and the first to respond along with firefighters and police.

The inability to perform adequate testing and the failure to comply with minimum federal regulations have contributed, if not caused many recent railroad accidents. In their never ending zeal to focus on the financial bottom line, railroads have allowed staffing levels to fall below the minimum needed to perform basic safety functions. Additionally the railroads are not through with their desire to further reduce manpower levels. The railroads are currently pushing very hard to reduce train crew size to a single person, and the implementation of Remote-Control-Locomotives (RCL) is proliferating as I speak here today.

Railroad management appears convinced that RCL operation is safe and a worthwhile pursuit. Yet accidents, derailments, and fatalities are occurring at an alarming rate when RCL is utilized. The use of unregulated RCL's remains both a safety and security issue that needs to be resolved. New technology offers many opportunities; however, before implementing new technologies, as much effort that went into the design of these devices, should also be put forth in studying the possible risks to workers who operate this equipment.

Positive Train Control:

On March 7, 2005 the Federal Railroad Administration (FRA) issued the Final Rule for 49 CFR Parts 209, 234, and 236, Standards for Development and Use of Processor-Based Signal and Train Control Systems.

With this Final Rule, FRA is issuing a performance standard for the development and use of processor-based signal and train control systems. The rule also covers systems which interact with highway-rail grade crossing warning systems. The rule establishes requirements for notifying FRA prior to installation and for training and recordkeeping. FRA issued these standards to promote the safe operation of trains on railroads using processor-based signal and train control equipment.

It is the position of rail labor that with adequate investment and proper planning, PTC systems can be built to serve the needs of the general freight rail system as well as inter-city and commuter passenger railroads.

While PTC systems configured for the general rail system are not available currently "off-the-shelf," planning and development are underway to produce such systems. The systems being envisioned will likely utilize: the Global Positioning System (GPS) with differential augmentation as the foundation, but not sole input, of its train location system; data-link radio as a principal communications medium between trains and controlling computers; on-board computers; and wayside interface units to relay information available in the field to controlling computers, among other features.

In order to ensure the safety of the railroad industry, especially when taking into account possible terrorist attacks, it is of the utmost importance to secure the funding for this worthwhile endeavor. We need to provide funding for the infrastructure to ensure that these systems are implemented and that we can therefore reap the much needed safety benefits.

The nation's rail industry can realize the greatest safety benefits by utilizing PTC systems in conjunction with the existing signal systems. Current signal circuits provide fail-safe "vitality" while PTC provides what its name implies, positive train control/separation.

It should be noted that these new technologies will not cure all that is wrong in the rail industry. Positive Train Control and the next generation signal systems are but tools to improve and enhance safety and security across the nation's railroads. However, they are not the end all and they are not in their present form fail-safe or even remotely infallible. It will take their implementation and the concerted efforts of the maintenance of way worker who installs the track, the dispatcher who controls the train movements, the signalman who provides clear signals, to the engineer who drives the train, to provide increased safety and security on our nation's railroads.

Improved Railroad Signal Systems:

Before I can speak on improved signal systems I must talk about current signal systems. Signal systems utilize a fail-safe design. They incorporate track circuits where the rails of the track form the foundation of the system. Existing signal systems currently in use today are designed to protect the safety and integrity of the railroad's operations on a section of track, providing protection from broken rails, track defects, track obstructions, and ensuring proper switch and derail alignment, route integrity, and protect against collisions and derailments. Many such systems use wayside signals to convey signal aspects and indications to train crews. Furthermore, signal systems are designed to mitigate the dangers caused by human error or acts of vandalism or terrorism. While signal systems are vital to the safety of the railroad's operations, it is also critical to the protection of residents of the communities adjacent to the affected portion of track.

Because of the known safety benefits of present-day signal systems it is imperative that these systems are properly maintained and remain in operation. However many railroads have petitioned the FRA through the Block Signal Application provisions of current regulations to remove signal systems and convert their method of operations to Dark Territory using Direct Traffic Control (DTC).

What is Dark Territory? In the railroad industry there are basically two methods of operation for moving trains. There is signaled territory and non-signaled territory. Non-signaled territory is also known as Dark Territory. Generally, in Dark Territory a train dispatcher authorizes the movement of trains to enter various portions of track on a railroad. The engineers who drive the trains then are governed by a set of operating rules to proceed through the authorized area. There are no checks and balances and the method of operation is heavily reliant on the human element to control the movement of trains. Dark Territory also increases the train dispatcher's work load, thereby degrading safety by introducing additional human factor risks to the area.

Rail labor opposes elimination of signal systems because of the well-established safety benefits afforded by these types of signal operation. Clearly, it is in the best interest of the local residents to have the assurance of rail operations based on the protection provided by a signal system.

A good example of the benefits of a signal system can be seen when we look back at the January 6, 2005 derailment and hazardous materials release in Graniteville, South Carolina, which preliminary investigation has indicated was a result of an improperly lined switch. Nine people died, 318 needed medical attention and 5,400 residents within a one-mile radius of the crash site were forced to evacuate. According to the Naval Research Lab, a similar incident in a major urban metropolitan area would have resulted in 100,000 deaths.

The segment of track where the accident occurred was Dark Territory and the method of operation was Direct Traffic Control. A basic signal system would have prevented this accident. A switch monitoring device would have noted that the hand-throw switch was not properly lined and the train would have had a red signal. A red signal is a stop indication for a train.

As I stated previously, signal systems are designed to mitigate the dangers caused by human error or acts of vandalism. In the case of human error, if the hand-throw switch was left in the wrong position, the signal would not have gone to green, or "cleared" for the next train. The signal would have been red and indicated to the train crew to stop. In the case of a malicious act or vandalism, when switches are tampered with or purposely lined for the wrong track, once again the switch monitoring device would indicate that the switch was out of alignment, and as a result, caused the signal to be red or "at stop."

Oftentimes, railroads do not invest in the maintenance and repairs of their current signal systems. Then after experiencing normal weather conditions for the area, i.e.,

snowstorms, ice storms, high winds, etc., they often assert in their waiver applications, that the expenses associated with repairing such systems is justification to allow the waiver to be granted. Another reason they use is that replacement parts are no longer available. Rail labor contends that the reasons given by railroads are not valid. All equipment utilized in the railroad industry at some point approaches the end of its useful life. That is why equipment is constantly maintained, repaired and replaced at the proper intervals. Improper planning by the railroads and their failure to properly maintain the signal systems are not reasons to grant a waiver request and increase the amount of Dark Territory.

The technology changes envisioned for railroad signal systems is underway as I speak. Positive Train Control systems are just one facet of the signaling revolution that is occurring. Many current signal systems benefit from changing technology. As the President of the Brotherhood of Railroad Signalmen my organization has seen technological changes that were unthinkable 100 years ago. We have seen the simple signal light go from oil-lit to incandescent to a light emitting diode. We have seen crossing protection go from flagmen to air-operated gate men to D.C. track circuit detection to solid state motion detectors. My organization and all of rail labor have welcomed and adapted to the technological changes. We have embraced the advancements of the past and we look forward to future technologies because we believe that they will improve the work environment and make a safer and more reliable rail system.

However, along with that new technology comes new problems. We must be forever diligent to ensure that any new technology that the railroad industry contemplates to implement that we also perform the proper risk analysis and take the proper steps to make sure that we have not introduced more new hazards than we eliminated.

Training and Education:

Training and education is another key preventive measure that needs to be considered. Rail labor considers it equally important to provide Advanced Training to improve the skills of the professional men and women that install and maintain safety systems for the rail industry. This is an area that will improve safety. Rail labor continues to work to implement training provisions which were agreed to by the industry – but to date have not been implemented on many of our nation's railroads.

In addition to craft specific training, security training must be mandated. While some rail carriers might claim progress in this area, I have talked to too many workers who are not receiving any training or might be allowed to watch a one-size fits all video. This is woefully inadequate. Workers need to know how to identify a security risk and what to do in that situation. When should passengers be evacuated? Who is the contact person to report a potential risk? What actions, if any, should a worker take in a given situation? How should trains, stations or tunnels be evacuated and handled in different situations? What are the appropriate and necessary communications protocols crewmembers should follow in the event of a security breach or incident? These are just a

few of the many questions we know that workers are asking and not getting sufficient answers to. In addition to formal training, technology must be provided to allow train operators to alert dispatchers and management of security developments that may arise during operations.

As you know, the railroads transport the most toxic and dangerous materials in the country such as poisons, explosives, and flammable gases. The train crews are usually aware of which trains carry hazardous commodities, but that is little protection in preventing a catastrophe. Most freight trains in the United States transport some hazardous materials. The train crews are given very limited training in understanding what to do in case of a hazardous material leak or explosion. Basically, the instructions are to leave the scene and allow local emergency personnel to deal with the matter. That kind of action is totally insufficient when a terrorist attack occurs. It is too late to save lives after the train has been targeted. The risk to the public and the train crews are too extraordinary not to have knowledgeable, well trained crews to deal with safety and security.

After 9/11 each railroad was required to develop and implement security plans. The Transportation Security Administration (TSA) has apparently approved the plans of most railroads. The problem is that the plan is a secret between the railroads, the Department of Transportation (DOT) and the TSA. The employees have not been brought in the loop. The bottom line is that the TSA and the railroads must promptly begin an intense training program to educate and prepare railroad employees to recognize potential terrorists and safety/security risks in the vicinity of railroad facilities, and instruct the workers on the appropriate action to take in case of an attempt to target a train. If it is not done voluntarily then Congress should mandate the necessary training.

A companion issue with training is one of certification. In order to ensure accountability for the safe operation and maintenance of railroad equipment and facilities, the industry needs to create a certification program for personnel with safety responsibilities that would include engineers, carmen, mechanics, signalmen and track inspectors.

Enhance Rail Safety Enforcement

In addition to training, we must also ensure that workers who report or identify a security risk will not face retribution or retaliation from their employers. Simply put, a rail worker should not have to choose between doing the right thing on security and his or her job. Unfortunately, too often this is exactly what occurs in the industry when it comes to workers reporting rail safety risks and concerns.

Rail workers and their unions have long argued that despite the whistle-blower protections included in current law (49 U.S.C. § 20109), employees still experience employer harassment and intimidation when reporting accidents, injuries and other safety concerns.

If Congress considers rail security legislation, it must address this problem by strengthening the current whistle-blower protections and ensuring that workers who report security concerns are covered by the strongest possible protections. Everyday, rail carriers and the government ask front-line workers to be more vigilant about security risks and to report possible breaches. With the right training, rail workers are more than happy to play this role. But it is disingenuous to ask workers to report problems and at the same time refuse to give them the basic protections needed to ensure that such reporting will not result in retribution from their employer. Again, I urge the Committee to send a clear message on this point – workers are to be treated as partners in enhancing security, not critics to be silenced. In fact, I would like to see railroad workers eligible for the same whistle-blower protections in the Sarbanes-Oxley Act. Surely, if we can protect whistle-blowers who report financial security problems, we can also protect those who report rail safety concerns.

Improved Infrastructure Inspection and Security Technologies:

Over three and one half years have passed since the horrific events of 9/11, yet amazingly too little has been done to secure our nation's transportation network from another terrorist attack. Sufficient resources have not been allocated, common-sense requirements have not been imposed, and too often employees and their unions have not been enlisted as true partners in the process. While we understand that our vast transportation network can never be made immune from attack, in many respects our government has abdicated its responsibility to protect the homeland from security threats. More can, and must be done to secure targets and protect passengers, employees and communities.

America's transit and rail systems continue to face terrorist threats due to government inaction and neglect. The transit industry alone has identified $5.2 billion it needs in federal security-related capital investment over the next three years and $800 million annually for ongoing operating and maintenance expenditure – a total of $7.6 billion over three years or about $2.5 billion annually. By comparison, the President did not allocate any serious resources for transit and rail security and Congress approved just $150 million in security grants for FY 2005. This is supposed to cover security needs for intercity passenger rail, freight rail and transit. Put another way, over the past three years, the federal government's security assistance is 30 times less than the industry's currently projected three year need.

Amtrak requires $110 million in one-time security upgrades, $10 to $12 million annually for on-going security costs and approximately $650 million for its fire and life-safety program along the Northeast Corridor. The Bush Administration wants to zero-out Amtrak, submerge it into bankruptcy, and force states to pick up the tab – a scheme that would result in the destruction of our national passenger rail system and expose rail passengers, workers and the nation to untold security threats. Congress must reject this reckless proposal by the Administration.

When discussing security technology, one of the most important issues concerns information technology systems utilized for signal systems. Rail labor believes that it is important to know how and where signal system information backed up? Present operations of the major railroads are consolidated to one dispatching location. Most dispatch centers contain all of the signal control information. If a center was disabled or lost forever what safeguards are in place to get the system up and running as soon as possible? Additionally, are the operating systems backed up offsite? These are just some of basic concerns that have to be addressed in order to keep the nation's railroads up and running in the event of a catastrophe, either man-made or natural.

One of the easiest ways to improve infrastructure inspection is to amend 49 U.S.C. §20142 to direct the Secretary to issue rules requiring that no visual track inspection be conducted from a vehicle traveling at a speed of more than 15 miles per hour. Speed is a factor for both security and safety. At lower speeds the track inspector can do a better inspection and is also more likely to observe an individual with intent to harm railroad property be it either a common vandal or terrorist.

It is equally important to make provisions requiring all track motor vehicles, self-propelled maintenance of way equipment, and other equipment which is designed with permanent or retractable flanged wheels, to be designed and maintained so as to conduct electrical current from one rail of the track to the other. This will activate signal systems designed to detect the presence of locomotives, cars, trains, and other rolling equipment on the track. The purpose of this recommendation is twofold: you get a better inspection at a lower speed and by shunting the track you activate the grade crossing signal systems designed to protect the traveling public.

Current regulations call for a minimum of two track inspections a week. If you increase the inspections to more than two times a week, the visibility of the inspectors, or put another way, the higher profile of people on the track will discourage undesirables and make it more difficult for anyone planning to create havoc on the railroads.

Better Emergency Planning and Coordination

Rail labor believes that the incorporation of a nationwide telephone notification system would greatly improve safety for our nation's grade crossing signal systems. Rail labor has long recommended that a nationwide telephone reporting system, such as a 1-800 system, be developed to allow members of the public to report crossing signal malfunctions. Although FRA has made this a recommendation, it is not presently required by regulation. As such, while many Class I railroads have voluntarily implemented some type of 1-800 notification system, most Class II, Class III, and/or short line railroads have not. This nationwide telephone notification system could also be used by anyone to report derailments or other events that affect safety and security on railroad property.

Modern Passenger Coach Technologies:

Their have been many improvements to modern passenger coach technologies and in fact many of the recommendations contained in the *Locomotive Crashworthiness &*

Working Conditions report are currently being implemented. Also at this time the FRA Railroad Safety Advisory Committee (RSAC) has currently authorized a subcommittee entitled the Passenger Safety Working group. They are currently exploring a myriad of ways to make the passenger coaches safer. I defer my time on this topic to the FRA Administrator.

At this time I would like to state for the record that there are many low-tech avenues to pursue when it comes to passenger safety. Rail labor has recommended that an in-depth study should be performed for rail passenger safety. The study should consider but not be limited to: Photo ID's to board trains; Metal detectors; Security questions of passengers; Luggage checked or kept with passenger; and No movement between passenger train cars. It is the position of the rail labor that this would be a good first step in making rail travel safer for the traveling public.

Conclusion

There is little question that more must be done to improve rail security – both in the transport of passengers and freight. While we all agree with this statement, it all comes down to money. The Transportation Security Administration (TSA) is spending $4.4 billion this year on aviation security – an investment in aviation security we of course support – but passenger rail and transit are being left with just $10 million. When you acknowledge the size and scope of our rail system and infrastructure, this lack of attention and focus is hard to understand. There are over 100,000 miles of rail in the United States – 22,000 miles of it used by Amtrak in 46 states and the District of Columbia. Amtrak served approximately 23.4 million passengers in the past year, or 64,000 a day. Commuter rail operations add 1.2 million passenger trips each weekday. The freight rail carriers transport 42 percent of our nation's domestic intercity freight.

So our rail security challenge, based just on the size of the system, is indeed daunting. In addition, we must recognize that given the open nature of our rail transportation network, we are never going to be able to secure it entirely, as it is, unlike aviation, railroads are simply not housed in a closed or controlled infrastructure.

While just as there is no silver bullet in medicine to cure all ills, new technologies will not cure all that is wrong in the rail industry. Positive Train Control, solid-state grade crossing signal systems, next generation signal systems, these are but tools to improve and enhance safety and security across the nation's railroads. However, they are not the end all and they are not in their present form fail-safe or even remotely infallible. It will take their implementation and the concerted efforts of the maintenance of way worker who installs the track, the dispatcher who controls the train movements, the signalman who provides clear signals, to the engineer who drives the train, to provide increased safety and security on our nation's railroads.

There is much to accomplish to make the nation's railroads safer for communities across the country and for the employees. Experience teaches us that it is Congress that

must provide the leadership to make safety a reality. I hope we can work together to see that improved safety practices become a reality.

On behalf of rail labor I appreciate this opportunity to testify before the Committee. At this time I would be more that pleased to answer any questions.

Respectfully submitted,

W. Dan Pickett
International President